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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BERDICHEVSKY, MIRIAM

ART UNIT

PAPER NUMBER

1723

MAIL DATE

DELIVERY MODE

12/21/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,733	Applicant(s) INOUE ET AL.	
	Examiner MIRIAM BERDICHEVSKY	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on rce 12/7/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11, 14 and 22-34 is/are pending in the application.
- 4a) Of the above claim(s) 5-8 and 28-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11, 14, 22-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/7/2010, 11/1/2010</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/7/2010 has been entered.

Remarks

Claim 1 is amended. Claims 5-8 and 28-34 are withdrawn. Claims 1-4, 11, 14 and 22-27 are currently pending.

Status of Rejections

All rejections from the previous office action are maintained.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-4, 11, 14 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'610 (JP 5-186610) and JP'073 (JP 2001-320073).

As to claim 1, JP'610 teaches a filler sheet for a solar cell module, which is formed as a filler sheet laminated on front face and rear face sides of a solar cell element and is made of a resin film produced by a resin composition consisting essentially of: a copolymer of an α -olefin and an ethylenic unsaturated silane compound ([0011], [0018] and [0032]) and one or more selected from a group consisting of a light resisting agent, an ultraviolet absorbent and a thermal stabilizer ([0033]).

JP'610 is silent to a thermal stabilizer. JP'073 teaches an olefin based filler sheet for solar cells which includes a heat resistant stabilizer (thermal stabilizer) ([0025]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the thermal stabilizer of JP'073 in JP'610 because the additives increase weatherability of the solar module, as taught by JP'073 ([0069]) especially in light of the fact that JP'610 discloses a desire for heat resistance (thermal stability) ([0004]) and it has been held to be within the general skill of a worker in the art to select

a known material on the basis of its suitability for the intended use as a matter of obvious design choice (MPEP 2144.07).

Regarding claim 2, JP'610 teaches that the α -olefin is one or more selected from a group consisting of ethylene, propylene, 1-butene ([0032]).

Regarding claim 3, JP'610 teaches that the ethylenic unsaturated silane compound is vinyltrimethoxysilane ([0018]).

Regarding claim 4, JP'610 teaches that the copolymer further comprises one or more selected from vinyl acetate, acrylic acid, methacrylic acid, methyl acrylate, methyl methacrylate, ethyl acrylate and vinyl alcohol ([0021]).

Regarding claim 11, modified JP'610 teaches the use of stabilizers/additives in the copolymer (JP'610: [0033]) one such stabilizer being a thermal stabilizer (JP'073: [0025]) made of a phosphorous type or phenol type (JP'073: [0069]).

Regarding claim 23, JP'610 teaches the use of a copolymer of ethylene and an ethylene nature unsaturated silane such as vinyltrimethoxysilane ([0011] and [0018]) but is silent the ethylene formed being straight chain low density polyethylene.

JP'073 teaches that olefins such as ethylene specifically low density polyethylene can be used in a filler sheet for solar cell modules ([0010]), wherein polyethylene forms straight chains of ethylene monomers.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the low density polyethylene of JP'073 in JP'610 because JP'073 teaches that the materials are art recognized equivalents such that one of ordinary skill would have found it obvious to use low density polyethylene of a limited number of

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options with a reasonable expectation of success with predictable results. Moreover, selection of a known material based on its suitability for an intended use is within the skill of a worker in the art (MPEP 2144 and 2141).

Regarding claim 24, modified JP'610 teaches a hindered amine (JP'073: [0069]) light resisting agent. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the hindered amine system of JP'073 in JP'610 because the additives increase weatherability of the solar module, as taught by JP'073 ([0069]).

Regarding claim 25, modified JP'610 teaches a benzophenone type UV absorber (JP'073: [0069]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the benzophenone system of JP'073 in JP'610 because the additives increase weatherability of the solar module, as taught by JP'073 ([0069]).

Regarding claims 14 and 26-27, JP'610 teaches the use of stabilizers/additives in the copolymer ([0033]) but is silent to the light resisting agent being 0.01-5% by weight of the copolymer (claim 26), the UV absorbent being 0.05-5% by weight of the copolymer (claim 27) and the thermal stabilizer being 0.05-5% by weight of the copolymer (claim 14).

JP'073 teaches an olefin based filler sheet for solar cells which includes light resisting, UV absorbing and thermal stabilizing additives added to the filler sheet at 0.1 to 10% by weight depending on the shape and density of the product ([0069]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the light resisting agent at 0.01-5% by weight of the copolymer (claim 12), the UV absorbent at 0.05-5% by weight of the copolymer (claim 13) and the thermal stabilizer at

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0.05-5% by weight of the copolymer (claim 14) in order to optimize the weatherability, heat resistance, lightfastness, water resistance, wind endurance, hailstorm proof nature of the solar cell module (JP'073: [0001]) as it has been held to be within the general skill of a worker in the art to discover an optimum value of a result effective variable as part of routine skill in the art (MPEP 2144.05).

4. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'610 and JP'073 as applied to claim 1, and further in view of Pfaendner (US 6362278).

Regarding claim 22, modified JP'610 teaches heat resistant stabilizers (thermal stabilizers) and various other additives for the stabilization of the thermoplastic olefin copolymer (JP'610: [0033] and JP'073: [0025] and [0069]) but is silent to specifically a lactone stabilizer. Pfaendner teaches stabilizing polymers such as olefin copolymers (col. 24, lines 30-40) using various additives including lactones (thermal stabilizers) (col. 10, line 40 to col. 11, line 40). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the lactone stabilizer of Pfaendner in modified JP'610 because the additives reduce thermal and photooxidative damage especially in light of the fact that JP'610 discloses a desire for heat resistance (thermal stability) ([0004]); JP'073 specifically discloses various additives which overlap with those taught by Pfaendner ([0069]) and it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice (MPEP 2144.07).

Response to Arguments

Applicant's arguments with respect to claim 1 have been fully considered but are not persuasive. Applicant argues that the amendment changing the independent from open language to "consisting essentially of" removes JP'610 because JP'610 has a third component an unsaturated carboxylic acid whereas independent claim 1 does not. The Examiner respectfully disagrees. A consisting essentially of claim occupies a middle ground between closed claims that are written in a consisting of format and fully open claims that are drafted in a comprising format. The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. In this case, the unsaturated carboxylic acid does not materially affect the basic and novel characteristics of the claimed invention, as evidenced by Applicant's claim 4.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **MIRIAM BERDICHEVSKY** whose telephone number is (571)270-5256. The examiner can normally be reached on M-Th, 10am-8pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. B./
Examiner, Art Unit 1723

/Alexa D. Neckel/
Supervisory Patent Examiner, Art Unit 1723